

PRACTICE: Graphing parabolas

Graph the following (use graph paper!):

a. $y = (x-4)^2 + 3$

b. $y = 2(x+2)^2 - 3$

c. $y = 3(x+1)^2 - 2$

d. $y = 2x^2 - 4$

e. $y = \frac{1}{4}(x-1)^2 - 2$

f. $y = -\frac{1}{2}(x-1)^2 + 3$

Write an equation for the following:

1. A parabola that opens down and is shifted 3 units to the right and 4 units down.
2. A parabola that opens up and is shifted 5 units to the left and 7 units down.
3. A parabola that opens down and is shifted 8 units to the right and 3 units up.
4. A wider parabola that opens up and is shifted 4 units to the left and 2 units up.
5. A more narrow parabola that opens down and is shifted 7 units to the right and 9 units down.
6. A wider parabola that opens down and is shifted 3 units to the right and 5 units down.
7. A more narrow parabola that opens up and is shifted 2 units to the left and 4 units up.